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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,921	09/17/2003	Ashok Prabhu	NSC1P278/P05689	6486
22434	7590	09/16/2005	EXAMINER	
BEYER WEAVER & THOMAS LLP P.O. BOX 70250 OAKLAND, CA 94612-0250			CHACKO DAVIS, DABORAH	
			ART UNIT	PAPER NUMBER
			1756	
DATE MAILED: 09/16/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/666,921

Applicant(s)

PRABHU ET AL

Examiner

Daborah Chacko-Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/03, 12/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 6,075,237 (Ciccarelli).

Ciccarelli, in the abstract, and in col 2, lines 3-30, discloses a die fabricated (image sensor), applying a cover glass (lid) on the imaging sensing package (encapsulating the image sensor), wherein the cover glass has a patterned photosensitive layer (epoxy resin), such that the transparent region (region without the opaque layer, reference 28 of figure 3) is directly positioned over the image sensor, and the opaque patterned portion (reference 24 of figure 3) becomes the seal (photosensitive epoxy) upon which the cover glass is mounted (lid mounted onto the die) such that a gap having a dimension equal to the height of the support regions of the lid (reference 18 of figure 3) exists between the image sensor chip and the cover glass (claims 1, 5, 11, 13, 16, 17). Ciccarelli, in col 2, lines 60-65, and in figure 3, discloses that the image sensor (plurality of leads) is electrically coupled to the connector pads (contact bumps on the die) within the cavity (claim 7, 22, 23).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-26, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,873,024 (Prabhu et al) in view of U. S. Patent No. 2005/0030505 (Miwa).

Prabhu, in the abstract, in col 3, lines 23-67, in col 4, lines 1-50, and in figures 3, 7, 8, and 9, discloses a semiconductor wafer containing an optical imaging die, wherein the wafer includes a plurality of die, each die (less than 0.7mm in thickness) includes an imaging circuitry, mounting a patterned transparent template on each die, wherein each template has patterned die cover regions (reference 22, transparent region), and recess regions (at the periphery of the template including the spacing structures), said template is mounted onto to the die such that the transparent region covers the imaging circuitry; the spacing structures are formed on the die of the wafer upon which the transparent template (epoxy resin is used as the spacing structure, photosensitive adhesive) is mounted so as to form a gap of about 50 microns between the imaging circuitry and the transparent template (claims 1,3, 11, 12, 13, 15-16). Prabhu, in col 4, lines 42-47, in col 5, lines 16-22, and in figure 11, discloses that the patterned transparent template (of the claimed thickness) is singulated, followed by encapsulating (packaging with packaging material such as clear epoxy etc.,) the die and the template using standard packaging

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techniques (claims 4, 5, 8, 17, 19). Prabhu, in col 5, lines 10-16, discloses that the die package is a tape automate bond package (claims 6, 18). Prabhu, in col 5, lines 8-16, discloses that the contacts (contact bumps) are electrically coupled to the leads (reference 44 of figure 8), wherein the leads are insulated from one other via polyimide encapsulant present over the die (above the imaging circuitry) (claims 7, 22, 23, 24). Prabhu, in col 5, lines 50-67, discloses that the bond pads on the dies are electrically coupled to the substrate package (solder balls) (claims 9-10, and 25-26).

The difference between the claims and Prabhu is that Prabhu does not disclose that the transparent template pattern is formed by photolithographically patterning the photosensitive layer on the template (claim 2).

Miwa, in [0002], and in [0074], discloses that the photosensitive material coated on the glass plate (transparent template) is photolithographically patterned.

Therefore, it would be obvious to a skilled artisan to modify Prabhu by employing the photolithographic method of patterning the photosensitive material coated template as suggested by Miwa because Miwa in [0074], discloses that employing the claimed method enables the formation of the multiple circuit patterns on a single plate and can be used as a mask in the manufacturing of various devices.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daborah Chacko-Davis whose telephone number is (571) 272-1380. The examiner can normally be reached on M-F 9:30 - 6:00. If

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attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dcd


September 13, 2005.


JOHN A. MCPHERSON
PRIMARY EXAMINER